CLAIMS

1. An isolated nucleic acid molecule containing a nucleotide sequence which encodes phosphatidylinositol-3' kinase associated protein(s).

2. An isolated nucleic acid molecule of claim 1 which encodes a phosphatidylinositol-3' kinase associated protein(s) that bind to the intermediate SH2 domain on the regulatory subunit of PI3K by the associated protein(s) C-terminal amino acids, and that:

a) encodes the amino acid sequence shown in FIG. 2; or

b) encodes the amino acid sequence encoded by the cDNA contained in the cDNA clone as deposited with the ATCC having accession No. 98189; or

c) hybridizes under stringent conditions to the nucleotide sequence of (a) or to its complement.

3. An isolated nucleotide sequence encoding a chimeric protein comprising the nucleotide sequence of Claim 1 fused to a second nucleotide sequence that encodes a heterologous polypeptide.

4. A nucleotide vector containing the nucleotide sequence of Claim 1.

5. An expression vector containing the nucleotide sequence of Claim 1 in operative association with a nucleotide regulatory sequence that controls expression of the nucleotide sequence in a host cell.

6. A host cell that has been genetically engineered to contain the nucleotide sequence of Claim 1.

7. A host cell that has been genetically engineered to contain the nucleotide sequence of Claim 1 in operative association with a nucleotide regulatory sequence that controls expression of the nucleotide sequence in the host cell.

8. An isolated phosphatidylinositol-3' kinase associated protein(s) that bind to the intermediate SH2 domain on the regulatory subunit of phosphatidylinositol-3' kinase by the associated protein(s) C-terminal amino acids.

9. An isolated phosphatidylinositol-3' kinase associated protein(s) of claim 8 which further comprises a bromodomain.

10. An isolated phosphatidylinositol-3' kinase associated protein(s) of claim 9 comprising the amino acid sequence shown in FIG. 2, or the amino acid sequence encoded by the cDNA shown in Fig. 1.

11. A chimeric protein comprising said phosphatidylinositol-3' kinase associated protein(s) of claim 10 fused to a heterologous polypeptide.

12. The chimeric protein of Claim 11 in which the heterologous polypeptide is a Glu tag or a myc epitope tag.

13. An antibody that immunospecifically binds the phosphatidylinositol-3' kinase associated protein(s) of Claim 8.

14. A method for diagnosing disease in a mammal, comprising detecting a phosphatidylinositol-3' kinase associated protein(s) gene mutation contained in the genome of the mammal.

15. A method for screening compounds useful for the treatment of cell growth disorders, comprising the steps of:

combining in solution a compound, activated PI3K, phosphatidylinositol-3' kinase associated protein(s), ATP, and lipid, and;

assaying the transfer of phosphate from ATP to the lipid in the presence or absence of said compound.

16. The method of Claim 15, in which the lipid contains PtdIns(4,5)P_2.

17. A method for treating a cell growth disorder in a mammal, comprising administering a compound to the mammal in an amount sufficient to inhibit activation of PI3K through its regulatory subunit p85 by association with phosphatidylinositol-3' kinase associated protein(s).

18. The method of Claim 17 in which the cell growth disorder is selected from the group consisting of restinosis and cancer.

19. The method of Claim 18 in which the compound disrupts the interaction of p85 regulatory subunit with a phosphatidylinositol-3' kinase associated protein(s) at the intermediate shared homology domain of p85.

20. A method for treating a cell growth disorder in a mammal, comprising administering a compound to the mammal in an amount sufficient to inhibit expression of a phosphatidylinositol-3' kinase associated protein(s) *in vivo*.

21. The method of Claim 20 in which the cell growth disorder is selected from the group consisting of restinosis and cancer.

22. A method for treating a cell growth disorder in a mammal, comprising administering a compound to a mammal in an amount sufficient to up regulate expression of a functional phosphatidylinositol-3' kinase associated protein(s) in the mammal.